Assistive Technology Solutions

Assistive technology (AT) is any item, piece of equipment or product that can be used to help someone with a disability successfully function at home, in school, at work, and in the community. AT can be anything from a simple, low-tech device such as a magnifying glass, to a complex, high-tech device such as a computerized communication system. It can be big — an automated van lift for a wheelchair — or small — a Velcro grip attached to a book for easier page turning. Assistive technology can strengthen a person's abilities where needed or substitute for them entirely — such as a picture board with sound output that helps a child who cannot communicate with her voice.

Learning about available AT options can help parents identify those tools that may best help their children. This resource from the Family Center on Technology and Disability provides visual examples of a range of AT products to help parents who are beginning their search for assistive technology.

Listed in the following pages, you will find:

- Basic questions to be considered when trying to identify assistive technology devices that will best suit your child

- Illustrated examples of some of the AT options available

- Icons indicating whether a device is high-tech, mid-tech or low-tech

- A product list with vendor information

IDEAs
that Work
U.S. Office of Special
Education Programs

Family Center
on Technology
and Disability
www.fctd.info

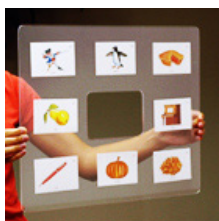## Key

⬤ Low-Tech

▲ Mid-Tech

◼ High-Tech

Products, manufacturers or vendors that are identified in the guide are meant only as examples. The Family Center on Technology and Disability and the U.S. Department of Education do not endorse specific products. There are many other fine AT devices available in addition to those discussed here. Please note that vendors listed may not be the sole supplier for a particular product.

Communication

Communication - Does the child...

- have limited verbal expression or none at all?
- need enhanced communication at home, school, work, and in the community?

- have other functional weaknesses that will affect his ability to use a specific device?
- need a device that can adapted easily as he grows and develops?

Eye Gaze Board	Simple Voice Output Device	Voice Output Device with Icon Sequencing	Voice Ouput with Dynamic Display	Device with Speech Output for Typing
⬤	◼	◼	◼	◼

Studying/Reading/Math

Learning/Studying - Does the child...

- manage his own school supplies and materials at school?
- need help keeping up with his schedule?
- have difficulty taking notes in class?

- benefit from audio lessons that can be played back at the child's own pace?
- have visual or auditory disabilities that need to be accommodated?

Print or Picture Schedule

Low-Tech Aids (flags, highlighting)

Recorded Materials (lessons, books)
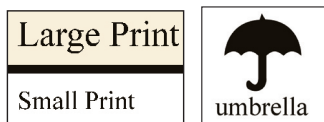
iPod or PDA Devices

Scanner with OCR

Reading - Is the child...

- able to read independently?
- able to sound-out unfamiliar words?
- better able to understand information with pictures and other illustrations?

- having difficulty reading text because of low vision?
- able to read and understand material that has been modified in font and format?

Large Print / Small Print / umbrella

Changes in Text (size/space/color/pictures background color)

Book Adapted for Page Turning (page fluffers)

Talking Electronic Devices for Single Words (Reading pen)
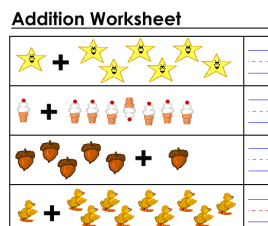
iPad or Tablet

CCTV Video Magnifiers

Math - Can the child...

- understand what is on her math worksheets?
- easily access and operate the keys on a standard calculator?
- better understand math concepts using "manipulatives" – items she can see, touch, and move?
- be motivated to spend more time on task?

Abacus / Math line

Enlarged Math Worksheets

Tactile/Voice Output Measuring Devices (clocks/rulers)

Talking Calculator or Large-key Calculator

Math Software

Alternate Computer Access - Is the child able to...

- use a modified keyboard or touch screen?
- effectively control a mouse?
- use a voice input option that requires speech clarity?
- Over what portions of his body does the child have maximum control?

Alternative Keyboard / Keyboard Additions

Mouse Alternatives

Touchscreens & Touchscreen Software

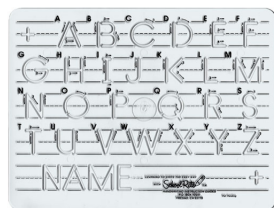Pointing Device (mouthstick, head pointer)

Switches

Composing Written Material

Content - Does the child...

- have trouble organizing ideas?
- have a limited vocabulary?
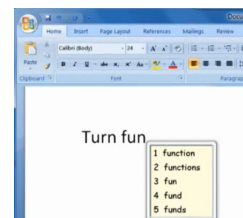
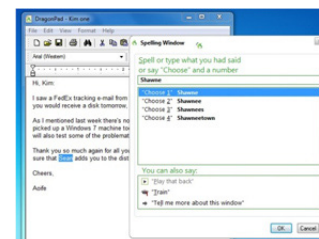- have problems with spelling and grammar?

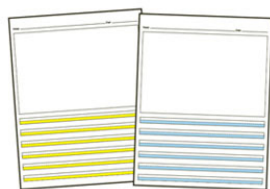| Word Cards	Writing Templates	Electronic Dictionary	Word Prediction Software	Voice Recognition Software
●	▲	■	■	■

Mechanics of Writing – Does the child...

- have trouble holding a pen, pencil or marker?
- write at an efficient speed?

- have vision problems that limit his ability to write?

Pen/Pencil Grips	Adapted Paper	Slant Board	Talking Pocket Dictionary	Laptop Computer
●	●	▲	■	■

Aids for Daily Living

Eating - Is the child able to...

- hold and effectively use utensils on his own?
- eat independently?

- sit up while eating?
- express food choices (*see Communication*)

Non-Slip Surfaces	Cuff/Strap	Adapted Utensils	Adapted Drinking Devices	Articulated Forearm Support
●	●	●	●	■

Dressing – How effectively does the child...

- use zippers, buttons and snaps?
- put on and tie his own shoes?

- reach/access her own clothing and shoes?
- get dressed without assistance from others?

Button Hook	Shoe Aid	Sock Aid	Dressing Stick	Revolving Closet
●	●	●	●	■

Recreation & Leisure – Does the child...

- take part in playing board games or assembling puzzles?
- have difficulty holding pens, pencils and crayons?
- play on playground equipment?

- participate in group sports?
- have the ability to play traditional or modified musical instruments?

Wrist Cuff
○

Adapted Toys and Games
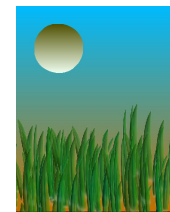(e.g. puzzles w/handles, card holders, switch-operated)
○

Adapted Scissors
△

Adapted Sporting & Playground Equipment
△

Wrist/Forearm Support
□

Software for Drawing/ Music
□

Home Living – Is the child able to ...

- use door knobs, handles, faucets and switches?
- move around the house?

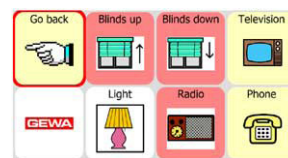- turn appliances on and off?
- reach counters and tables?

Adaptive Tools
(e.g. door knob turners, faucet turners/grips & lamp switches)
○

Switches
△

Battery Interrupters
□

Environmental Control Unit
□

X-10 Unit & Peripherals
□

Other Questions and Issues to Consider

- A child's difficulty in completing a task may involve a combination of factors – physical, intellectual, and emotional. Sometimes multiple AT devices will be useful. A computer program that helps a child understand the rules of a group sport may be an effective first step before involving the child in the activity with others. Likewise, virtual games can introduce a child to the movements needed in real-world games.

- Computer-based programs can provide the motivation to increase a child's time-on-task. However, some children are very sensitive to the sounds and quick motions in such programs; their exposure to visual and auditory stimuli should be monitored and controlled.

- Please consider a child's preferences when selecting AT devices. Such issues as color, size, weight, and the device's "cool factor" can make all the difference in whether it is used regularly or abandoned.

- Everyone who deals with the child when he or she is using a device needs to be trained in its use. This may include the school bus driver, the sports coach, the cafeteria monitor, or a next-door neighbor. Most people want to learn how to help!

- Consider compatibility of computer-based programs. Before purchasing a new device or application, ask about its ability to work effectively with your existing equipment.

Product Photo Listing

Communication

1. Eye-Com™ Board Combination Kit - Photo credit to Pro-ED, Inc. (http://www.proedinc.com)
2. GoTalk 9+ – Photo credit to Attainment Company (http://www.attainmentcompany.com)
3. ChatBox 40-XT – Photo Courtesty of Mayer Johnson – (http://www.mayer-johnson.com)
4. DynaVox M3 – Photo credit toDynavox Mayer-Johnson – (http://www.dynavoxtech.com)
5. Lightwriter® SL40 - Photo credit to Tobii ATI – (http://www.tobii.com/en/assistive-technology/north-america/)

Studying/Reading/Math

Learning/Studying
1. Picture Schedule with Finished Flaps – Photo credit to Augmentative Resources (http://www.augresources.com/).
2. Flag pens and highlighters– Photo credit to Post-it® (http://www.3m.com/us/office/postit/)
3. Sanyo TRC-5830 Voice-Activated Microcassette Tape Recorder – Photo courtesy of Medword.com (http://medword.com/)
4. IRISPen6 – Photo credit to IRIS (http://www.irislink.com)
5. Apple iPod Touch - Photo credit to Apple (http://www.apple.com/ipodtouch/)

Reading
1. Example of large print
2. Example of use of pictures with text
3. Example of a page fluffer
4. Readingpen® 2 – Photo credit to Enablemart (http://www.enablemart.com)
5. iPad - Photo credit to Apple (http://www.apple.com/education/ipad/)
6. Fusion - 7 inch LCD Portable Video Magnifier – Photo credit to MaxiAids (http://www.maxiaids.com)

Math
1. Abacus
2. Example of a math worksheet
3. Learning Resources Calc-U-Vue® Talking Calculator– Photo credit to Amazon.com (http://www.amazon.com)
4. Dr. Talking Clock, Teaching Clock – Photo credit to Learning, Sight & Sound Products (http://www.lssproducts.com)
5. Millie's Math House - Photo credit to Riverdeep (http://web.riverdeep.net)

Alternate Computer Access

1. IntelliKeys with DiscoverPro – Photo credit to Madentec (http://www.madentec.com/)
2. Roller II Joystick (mouse alternative) – Photo credit to Aroga (http://www.aroga.com/default_en.asp)
3. MagicTouch Touch Screen – Photo credit to Aroga (http://www.aroga.com/default_en.asp)
4. Head Pointer – Graphic courtesy of Forbes Rehab Services, Inc. (http://www.frs-solutions.com/)
5. Buddy Buttons switches – Photo courtesy of Infogrip (http://www.infogrip.com)

Composing Written Material

Written Material

1. Word Cards
2. Uppercase Handwriting Instruction Guide – Photo credit to School Rite (http://www.school-rite.com/)
3. Children's Talking Dictionary & Spell Corrector – Photo credit to Franklin Scientific (http://www.franklin.com/)
4. Word Q- Word Prediction software – Photo credit to Goqsoftware.com (http://www.goqsoftware.com/)
5. Nuance Dragon NaturallySpeaking 11 Professional - Photo credit to PC World (http://shop.nuance.com)

Mechanics of Writing

1. Crossover Grip – Photo credit to The Pencil Grip Inc. (http://www.thepencilgrip.com)
2. Merriam-Webster® Speaking Dictionary & Thesaurus – Photo credit to Franklin Electronic Publishers (http://www.franklin.com)
3. Bright Lined Paper – Photo credit to BrightLines Paper - (http://www.brightlinespaper.com)
4. Advantage Collapsable Slant Board – Photo credit to Therapro - (http://www.therapro.com/)
5. Inspiron laptop computer – Photo credit to Dell - (http://www.dell.com/us/p/inspiron-laptops.aspx)

Aids for Daily Living

Eating

1. Round Dycem Anchorpads – Photo credit to Essential Aids.com (http://www.essentialaids.com)
2. Universal cuff - Photo credit to B Independent [Item #: SNK134] (http://www.bindependent.com/)
3. EasieEaters™ Curved Utensils - Photo credit to Beyond Play (http://www.beyondplay.com/)
4. Halo Cup – Photo courtesy Therapro (http://www.therapro.com/Default.aspx)
5. ERGOREST® Forearm & Wrist support - Photo credit to MaxiAids, Inc. (http://www.maxiaids.com/store/default.asp)

Dressing

1. Good Grips Button Hook - Photo credit to Aids for Arthritis, Inc (http://www.aidsforarthritis.com/catalog/index.html)
2. DressEZ - 2-in-1 long handle shoehorn & dressing aid – Photo credit to ArcMate (http://arcmate.com/)
3. Molded Sock Aid – Photo credit to Active Forever (http:// www.activeforever.com)
4. Dressing Stick – Photo credit to Therapro (http://www.therapro.com)
5. Closet Carousel - Photo credit to White Home Products (http://closets.net)

Recreation and Leisure

1. Page Turner/Keyboard Aid With wrist cuff – Photo credit to Grover Gear (http://www.grovergear.com/servlet/the-226/KEYBOARD-AID--dsh--PAGE/Detail)
2. Puzzle with handles
3. Long Loop Easi-Grip Scissors – Photo credit to Therapro (http://www.therapro.com/)
4. Body Torso Support - Adapted sporting/playground equipment – Photo credit to Dragonfly Toys (http://www.dragonflytoys.com/)
5. ERGOREST® Forearm & Wrist support – Photo credit to Ergo Direct (http://www.ergodirect.com/)
6. Fresco drawing software - Photo credit to Tool Factory (http://www.toolfactory.com)

Home Living

1. Leveron Door Knob Turner - Photo credit to Therapro (http://www.therapro.com)
2. Jelly Beamer Twist Wireless Switch with SLAT – Photo credit to Enablemart (http://www.enablemart.com)
3. Battery Interruptor – Photo credit to Adaptivation (http://www.adaptivation.com)
4. Environmental control Unit – Photo credit to Zygo, USA (http://www.zygo-usa.com/)
5. X-10 Unit – Photo credit to X-10.com (http://www.x10.com)